ONTARIO CLEAN AIR ALLIANCE

June 3, 2021

Mr. Chuck Farmer
Senior Director, Power System Planning
Independent Electricity System Operator (IESO)
Toronto, Ontario

Dear Mr. Farmer:

Re: Phasing-Out Ontario's Gas-Fired Power Plants

Further to our letter of May 19th, we are very pleased that the IESO has committed to assess how Ontario can phase-out its gas-fired power plants by 2030.

Pursuant to the requests of 20 Ontario municipalities, we hope that the IESO will also assess how the gas plants' greenhouse gas pollution (GHG) can be returned to their 2017 levels ASAP.

We are writing to provide you with a list of options that we believe the IESO should assess to achieve the above-noted goals.

Step 1:Returning the gas plants' GHG pollution to their 2017 level ASAP

We can quickly return our gas-fired electricity generation to its 2017 level by:

1. Buying more Quebec water power (we can triple our imports with our existing transmission lines);
2. Ending gas-fired electricity exports to the U.S. (in 2019, 35% of our gas power was exported);
3. Ramping-up our energy efficiency programs (the Ford Government reduced the IESO's energy efficiency budget by 60%); and
4. Using a competitive procurement process to obtain new wind and solar energy supply at the lowest possible prices.

160 John Street, Suite 300, Toronto, Ontario, M5V 2E5
Telephone: (416) 260-2080 • Fax: (416) 598-9520
contact@cleanairalliance.org • www.cleanairalliance.org

Step 2: Achieving a complete gas plant phase-out by 2030

A) Expanding our transmission links with Quebec

By expanding our transmission links with Quebec we can increase our ability to: a) import low-cost Quebec water power; and b) use Hydro Quebec's reservoirs as a storage/load balancing option for our wind and solar energy.

The IESO has already identified how we can increase our import capability by an additional 7,500 megawatts (MW) by upgrading our transmission links with Quebec at Chats Falls (2,000 MW), Ottawa (2,000 MW), Beauharnois (2,000 MW) and Cornwall (1,500 MW).

Since all of these upgrades can use existing Hydro One transmission corridors, they can be completed by 2030.

B) Addressing demand on peak summer and winter days

Currently, our need for gas-fired generation is greatest on our hottest summer and coldest winter days. Specifically, in 2020, we needed 6,845 MW and 5,269 MW of gas generation during our summer and winter peak demand days respectively.

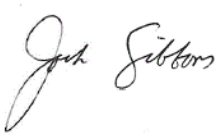
We can eliminate the need for gas-fired generation on our peak summer and winter demand days by 2030 by pursuing an integrated and balanced combination of some or all of the following additional actions:

1. Ramping-up the IESO's demand response programmes which pay commercial, institutional and industrial customers to reduce their electricity demands during *peak* demand hours (e.g., re-activating the Industrial Conservation Initiative could reduce peak day demand by up to 1,600 MW).
2. Ramping-up the IESO's energy efficiency programmes which reduce consumers' demand for electricity during *all* the hours of the year, including peak hours (e.g., home energy retrofit programs which improve the thermal envelopes of our homes; the installation of air-source heat pumps to replace electric resistance heating and conventional air-conditioners).
3. Vehicle-to-Grid Integration (V2G): We can harness our electric vehicles' (EVs) batteries to provide power to the grid during peak demand hours. According to Ford, its new F-150 Lightning pick-up truck can provide 9.6 kW of power to the electricity grid. Currently, Ontario has 9 million vehicles. If we have 1 million EVs by 2030, they could provide up to 9,600 MW to our grid during our peak demand hours.
4. Quebec's demand for electricity peaks during the winter. As a result, Hydro Quebec has more than 10,000 MW of surplus electricity generation during the summer. By expanding our transmission links with Quebec, we could import this power to meet our electricity needs during our hottest summer days.

5. Currently, during the coldest winter days, Quebec may not have surplus power available for export. However, since Quebec's electricity consumption per person is the highest in the world, it has the potential to invest in energy efficiency to reduce its domestic customers' electricity bills and to free up more of its existing heritage water power for export.
6. We can invest in new wind power projects to increase our electricity supply on cold winter days (wind turbines produce their greatest output on cold, winter days).
7. We can use off-peak electricity to produce ice to cool large commercial buildings, hospitals and universities during the day.
8. We can build stationary battery and compressed air storage systems to help us meet our peak hour demands (e.g., www.hydrostor.ca and www.nrstor.com)

For more information please see our report: *Phasing-Out Ontario's Gas-Fired Power Plants: A Road Map.*

Yours sincerely,



Jack Gibbons
Chair

cc. Sophie Brochu
Stephen Rhodes

160 John Street, Suite 300, Toronto, Ontario, M5V 2E5
Telephone: (416) 260-2080 • Fax: (416) 598-9520
contact@cleanairalliance.org • www.cleanairalliance.org